STUDIES IN THE HELIANTHEAE (ASTERACEAE). XVII.

ADDITIONS TO MONACTIS AND KINGIANTHUS.

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Monactis H.B.K. and Kingianthus H.Robins. form a related complex in the Andes of Ecuador and Peru. They are related to Verbesina but are clearly distinguished by the fusiform achenes. Monactis often bears a single pappus squama which was previously unique to the genus, but the new species of Kingianthus described here shows a similar pappus. Monactis was named after the single ray flower found in the head in many species. The heads of Kingianthus have more numerous rays arranged symmetrically.

The significant history of Monactis has been reviewed in the study by Robinson (1976). At that time Kingianthus was still treated as an anomalous South American species of Zaluzania, but the genus was segregated two years later (Robinson, 1978a) and an older name for the species was subsequently discovered (Robinson, 1978b). Quantities of new material have been seen since the cited studies, and additions to both genera are now necessary. It has seemed logical to treat the genera together because of their close relationship. Both genera are now seen to have geographically localized species, each in their own area. This is most obvious in Monactis in Ecuador where the areas of Pichincha, Canar, Azuay and Loja each have a characteristic species.

Monactis lojaensis H. Robinson, sp. nov.

Plantae frutescentes 1-2 m altae? Caules fulvi in nodis deflecti teretes pauce striati dense puberuli vel subtomentosi. Folia alternantia in partibus petioliformibus 2-6 cm longa superne sensim late alata; laminae late ovatae ad 17 cm longae et 14 cm latae base subabrupte acuminatae fere ad basem trinervatae margine integrae vel subcrenulatae apice breviter distincte acuminatae supra minute bullatae minute scabridulae subtus hirtellae et minute glandulo-punctatae, nervulis subtus valde prominentibus. Inflorescentiae terminales late corymboso-paniculatae, ramis parce puberulis vel hirtellis, ramis ultimis 0.3 mm longis. Capitula

anguste campanulata vel cylindrica 7-9 mm alta sine radiis 2.5-3.0 mm lata; squamae involucri ca. 3-seriatae subimbricatae 10-12 oblongae vel anguste oblongae 2-5 mm longae et 1.5 mm latae margine fimbriatae apice rotundatae extus glabrae; paleae squamis involucri similares ca. 5-6 mm longae obtusae. Flores radii plerumque 1 saepe 2 in capitulo feminei; corollae flavae, tubis ca. 2 mm longis parce puberulis, limbis oblongis ca. 7 mm longis et 3 mm latis subtus glanduliferis. Flores disci 10-12 in capitulo hermaphroditi; corollae flavae 3.5-4.0 mm longae glabrae vel subglabrae, tubis ca. 1.5 mm longis, faucis campanulatae ca. 1 mm longis, lobis 1.0-1.5 mm longis et ca. 0.8 mm latis intus superne indistincte mamillosis; thecae antherarum ca. 1.5 mm longae; appendices antherarum nigrae ovatae ca. 0.3 mm longae et 0.23 mm latae. Achaenia submatura fusiformia 4.5 mm longa glabra; squamae pappi singulares ca. 1 mm longae et 0.3 mm latae. Grana pollinis ca. 30 μm in diam.

TYPE: ECUADOR: Loja: Colca, near San Vincente, slopes at the confluence between Río Arenales and Rio Catamayo, dry slopes, ± 2000 m. 15/5 1967. Benkt Sparre 16198 (Holotype S).

Monactis lojaensis is apparently the endemic member of the genus from Loja in southern Ecuador. The most significant features seem to be the extremely broad leaves with somewhat roughened upper surface, the presence of rays in the heads, and the presence of a pappus. The species of adjacent Azuay in Ecuador, M. holwayae (Blake) H. Robins., lacks rays. The Loja species is actually closer to M. hieronymi H. Robins. of adjacent Peru, but the latter has much narrower leaves which are sometimes markedly toothed.

Monactis macbridei H. Robinson, sp. nov.

Plantae suffrutescentes virgatae ad 3 m altae non ramosae. Caules fulvi recti vel superne in nodis leviter deflecti teretes pauce striati dense puberuli. Folia alternantia, petiolis 2-5 mm longis; laminae ovato-lanceolatae plerumque 5-10 cm longae et 2-3 cm latae in partibus basilaribus anguste cuneatae vel acuminatae 1-2 cm longae supra basem trinervatae margine superne serrulatae vel argute serratae apice anguste acutae supra interdum leviter minute bullatae dense scabridulae subtus in nervis nervulis et interdum areolis pilosulae dense minute glandulo-punctatae. Inflorescentiae terminales corymboso-paniculatae, ramis dense puberulis vel tomentellis, ramis ultimis 0-1 mm longis. Capitula anguste campanulata vel cylindrica ca. 7 mm alta sine radiis ca. 2.5 mm lata; squamae

involucri ca. 3-seriatae subimbricatae 10-12 oblongae vel anguste oblongae 2-5 mm longae et 1.5 mm latae margine fimbriatae apice anguste rotundatae extus subglabrae minute glanduliferae; paleae squamis involucri similares ca. 5-6 mm longae apice obtusae. Flores radii 1-2 in capitulo feminei; corollae flavae, tubis ca. 1 mm longis puberulis et minute glanduliferis, limbis oblongis 5-6 mm longis 2.5-3.0 mm latis. Flores disci 10-12 in capitulo hermaphroditi; corollae flavae 4.0-4.5 mm longae, tubis 1.3-1.7 mm longis parce puberulis et glanduliferis, faucis campanulatis 1.5-2.0 mm longis glabris, lobis 0.7-1.0 mm longis et 0.5-0.7 mm latis intus obscure mamillosis extus parce minute glanduliferis; thecae antherarum ca. 1.5 mm longae; appendices antherarum nigrae ovatae ca. 0.4 mm longae et 0.25 mm latae. Achaenia submatura fusiformia ca. 2 mm longa glabra; pappus nullus. Grana pollinis ca. 30 µm in diam.

TYPE: PERU: Lima: Rio Blanco, steep stream hillside. 12,000 ft. Stems 8-10 ft. in clumps, scarcely woody, virgate, branchless. May 8-19, 1922. Macbride & Featherstone 771 (Holotype US). PARATYPE: PERU: La Libertad: Prov. Huamachuco: Road to Marcahuamacucho; alt. 3400. 23-II-1967. Riccio & La Rosa 3569 (US). Sinon. vulg. Churguis.

Monactis macbridei is distinguished from other members of the genus by the lanceolate leaves. The type specimen was seen at the time of the original study (Robinson, 1976), but the leaves were so unusual for Monactis and so much more like Kingianthus that treatment was deferred. The second specimen has confirmed the nature of the species. Some differences between the two specimens are noticeable, the leaves of the paratype are strongly serrate and the surfaces smoother, and the branches of the inflorescence are less densely pubescent. Still, pubescence of the corollas and paleae is basically the same and different from other members of the genus. One can assume more collections will show intermediate conditions.

The two localities for the species are both in the coastal ranges of Peru and the type specimen represents the most southward extention of the genus presently known.

Kingianthus paradoxus H. Robinson, sp. nov.

Plantae frutescentes ca. 1 m altae laxe ramosae. Caules recti teretes vel subhexagonales atro-brunnei dense albo-puberuli. Folia alternantia breviter petiolata vel subsessilia; laminae ovatae vel rhomboideae ca. 2-6 cm longae et 1.0-2.5 cm latae base subabrupte

longe decurrentes et petioliformes supra basem trinervatae margine subtiliter vel distincte crenulatae vel subdentatae apice obtusae vel breviter acutae supra dense scabridulae parce glandulo-punctatae subtus dense albo-tomentosae, nervulis in reticulo minuto obscure prominulis. Inflorescentiae terminales corymboso-paniculatae, ramis dense puberulis vel subtomentosis et glandulo-punctatis, ramis ultimis 2-10 mm longis. Capitula campanulata ca. 7 mm alta sine radiis ca. 4 mm lata; squamae involucri ca. 2-seriatae subimbricatae ca. 15 lanceolatae plerumque 3-4 mm longae et 1 mm latae inferne extus parce vel dense puberulae et glanduliferae superne scariosae et glabrae apice acutae; paleae lanceolatae ca. 4 mm longae extus tomentosae et glanduliferae superne scariosae glabrae. Flores radii 6-8 in capitulo feminei; corollae flavae, tubis ca. 1 mm longis pilosulis vel hirtellis, limbis oblongis ca. 7 mm longis et 3.5 mm latis subtus glandulo-punctatis. Flores disci ca. 30-40 in capitulo hermaphroditi; corollae flavae 3-4 mm longae, tubis 1.0-1.5 mm longis puberulis vel subglabris, faucis anguste campanulatis ca. 1.5 mm longis extus glabris vel subglabris, lobis ca. 0.8-1.0 mm longis et 0.7 mm latis intus indistincte mamillosis extus glabris; thecae antherarum ca. 1.2 mm longae, appendices antherarum nigrae ovatae ca. 0.3 mm longae et 0.23 mm latae. Achaenia submatura subfusiformia 2 mm longa glabra; squamae pappi singulares lanceolatae ca. 1 mm longae et 0.2 mm latae. Grana pollinis ca. 32-35 µm in diam.

TYPE: ECUADOR: Azuay: 42 km S of Cumbe on road to Saraguro. Elev. 10,000 ft. Shrub 1 m tall. Florets yellow. 26 Jan. 1979. R.M.King & F.Almeda 7813 (Holotype US). PARATYPE: ECUADOR: Azuay: 28 km N of Oño on the road to Saraguro. Elev. 8900 ft. Shrub 1 m tall. Florets yellow. Common. 26 Jan. 1979. R.M.King & F.Almeda 7816 (US).

Kingianthus paradoxus is evidently restricted to southern Ecuador and is isolated from the type species of the genus, K. paniculatus(Turcz.) H.Robins., which occurs in the Pichincha region. The new species differs from K. paniculatus by the less abrupt contractions in the bases of the leaf blades, the more rhomboidal shape of the blade, the tomentose rather than pilosulous undersurfaces of the leaves, the denser reticulation of the leaf veins, and the presence of a pappus on the achene. The paradox is the apparent abundance of this undescribed entity in a region which has been visited by many botanists. The localities were passed by R. M. King during the same season of the year in 1976. It is possible that the great

disturbance in the natural vegetation of Ecuador has allowed some previously restricted or even undescribed species to expand their range. A similar situation seems to be true in the case of Ayapana ecuadorensis K. & R. first described three years ago (King & Robinson, 1976). King reports from the most recent trip that the species is becoming increasingly weedy in areas near the type locality.

Literature Cited

King, R. M. and H. Robinson 1976. Studies in the Eupatorieae (Asteraceae). CLIX. Additions to the genus, Ayapana. Phytologia 34 (1): 57-66.

Robinson, H. 1976. Studies in the Heliantheae (Asteraceae). VII. Notes on the genus Monactis. Phytologia 34 (1): 33-45.

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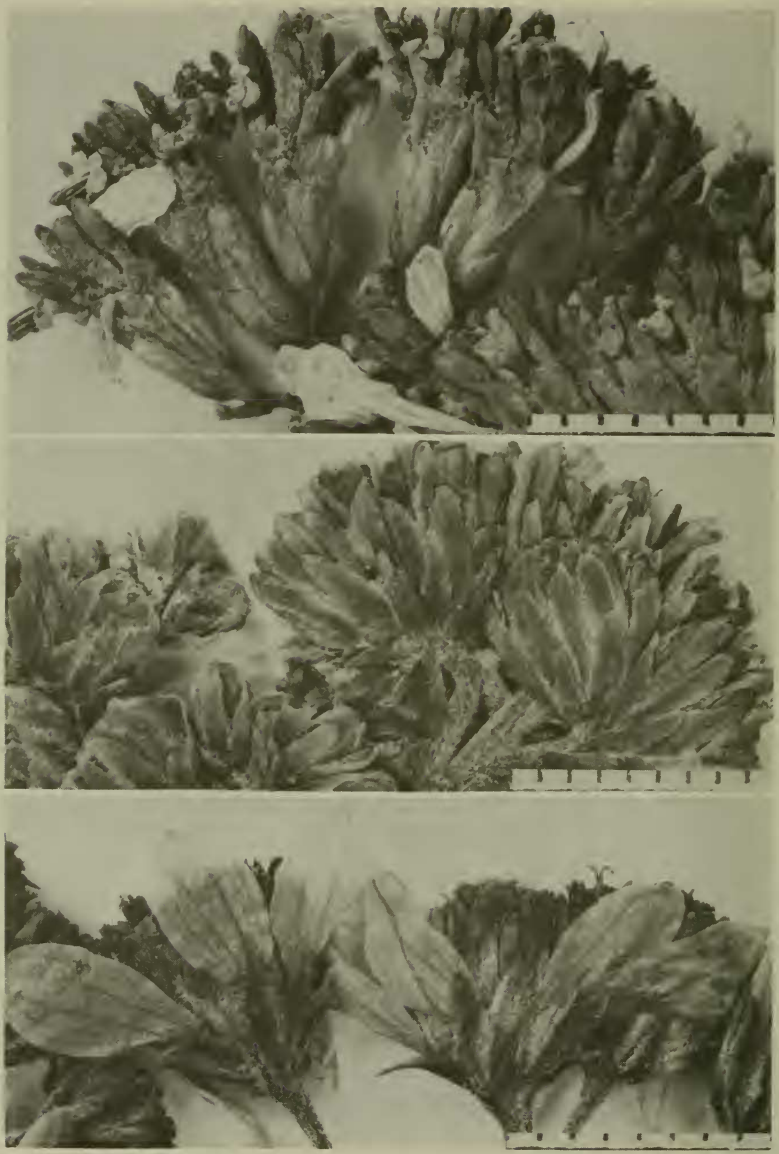
Monactis lojaensis H. Robinson, Holotype, Stockholm, Photo by Victor E. Krantz, Staff Photographer, National Museum of Natural History.

Monactis macbridei H. Robinson, Holotype, United States National Herbarium.

Kingianthus paradoxus H. Robinson, Holotype, United States National Herbarium.



Enlargements of heads. Top: Monactis lojaensis. Middle: Monactis macbridei. Bottom: Kingianthus paradoxus.